




ICF Consulting / Laboratory Data Consultants

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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager 
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105001

DATE: July 5, 2006

SUBJECT: Review of Analytical Data, Tier 3

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	33335
SDG No.:	MY1FS0
Laboratory:	Ceimic Corporation (CEIMIC)
Analysis:	CLP Dissolved Metals By ICP-AES and Total Cyanide
Samples:	19 Groundwater Samples (see Case Summary)
Collection Date:	September 13, 14, 15, and 16, 2004
Reviewer:	Stan Kott, ESAT/Laboratory Data Consultants

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

cc: Jennie Han-Liu, CLP PO USEPA Region 1
Steve Remaley, CLP PO USEPA Region 9

CLP PO: ☒ FYI ☐ Action

SAMPLING ISSUES: ☒ Yes ☐ No

Data Validation Report

Case No.: 33335
SDG No.: MY1FS0
Site: Omega Chem OU2
Laboratory: Ceimic Corporation (CEIMIC)
Reviewer: Stan Kott, ESAT/LDC
Date: July 5, 2006

I. CASE SUMMARY

Sample Information

Samples: MY1FS0 through MY1FS9, and MY1FT1 through MY1FT9
Concentration and Matrix: Low Concentration Groundwater
Analysis: Select CLP Dissolved Metals By ICP-AES and Total Cyanide
SOW: ILM05.3 and Modification Reference Number AES060304.0
Collection Date: September 13, 14, 15, and 16, 2004
Sample Receipt Date: September 15, 16, and 17, 2004
Preparation Date: September 22 and 24, 2004
Analysis Date: September 22, 27, and 28, 2004

Field QC

Field Blanks (FB): Not Provided
Equipment Blanks (EB): Not Provided
Background Samples (BG): Not Provided
Field Duplicates (D1): MY1FS1 and MY1FS2
Field Duplicates (D2): MY1FT5 and MY1FT6

Laboratory QC

Method Blanks & Associated Samples: Preparation Blank-Water (PBW) and samples listed above

Matrix Spike: MY1FT1S
Duplicates: MY1FT1D
ICP Serial Dilution: MY1FT1L

Analysis: Select CLP Dissolved Metals By ICP-AES and Total Cyanide

<u>Analyte</u>	<u>Sample Preparation and Digestion Date</u>	<u>Analysis Date</u>
ICP-AES Metals	September 24, 2004	September 27 and 28, 2004
Cyanide	September 22, 2004	September 22, 2004
Percent Solids	Not Applicable	Not Applicable

CLP PO Action

None.

Sampling Issues

The Traffic Report/Chain of Custody (TR/COC) record forms did not specify a sample to be used for laboratory quality control (QC). The laboratory selected sample MY1FT1 for QC analysis. No adverse effect on data quality is expected.

Additional Comments

Note that Ceimic Corporation laboratory is no longer in operation.

The samples in this SDG were analyzed for select CLP metals (aluminum, calcium, iron, magnesium, potassium, and sodium) plus boron and silicon by ICP-AES under Modified Analysis Request (MAR), Modification Reference Number AES060304.0.

Samples of this SDG were analyzed at a 3, 4, or 5-fold dilution due to silicon concentrations that exceeded the instrument's linear range. No adverse effect on data quality is expected.

All method requirements specified in the EPA Contract Laboratory Program (CLP) Inorganic Statement of Work (SOW), except as noted, have been met.

Analytical results are listed in Table 1A with qualifications. Definitions of data qualifiers used in Table 1A are listed in Table 1B.

This report was prepared in accordance with the following documents:

- Region 9 Standard Operating Procedure 906, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Inorganic Data Packages*;
- *Request for Quote for Modified Analysis* (SOW flexibility clause), Tracking Number: 1103.0, Modification Reference Number: AES060304.0, June 9, 2004;
- *USEPA Contract Laboratory Program Statement of Work For Inorganic Analysis Multi-Media, Multi-Concentration* ILM05.3, March 2004; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, October 2004.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	<u>Parameter</u>	<u>Acceptable</u>	<u>Comment</u>
1.	Data Completeness	Yes	
2.	Sample Preservation and Holding Times	Yes	
3.	Calibration	Yes	
	a. Initial		
	b. Initial and Continuing Calibration Verification		
	c. CRQL Check Standard (CRI)		
4.	Blanks	Yes	
5.	ICP Interference Check Sample (ICS)	Yes	
6.	Laboratory Control Sample (LCS)	Yes	
7.	Duplicate Sample Analysis	Yes	
8.	Matrix Spike Sample Analysis	Yes	
9.	ICP Serial Dilution Analysis	Yes	
10.	ICP-MS Internal Standards	N/A	
11.	Field Duplicate Sample Analysis	No	B
12.	Sample Quantitation	Yes	A
13.	Overall Assessment	Yes	

N/A = Not Applicable

III. VALIDITY AND COMMENTS

- A. Results above the method detection limit (MDL) but below the contract required quantitation limit (CRQL) (denoted with an "L" qualifier) are estimated and flagged "J" in Table 1A.

Results above the MDL but below the CRQL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of quantitation.

- B. A relative percent difference (RPD) of 29 was obtained for silicon in the analysis of field duplicate pair samples MY1FT5 and MY1FT6. Since sampling variability is included in the measurement, field duplicate results are expected to vary more than laboratory duplicates which have a ± 20 RPD criterion for precision. The effect on data quality is not known.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results of the analysis of the field duplicate pair may be due to the sample matrix, high levels of solids in the sample, or poor sampling or laboratory technique.

ANALYTICAL RESULTS

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Case No.: 33335

SDG No.: MY1FS0

Table 1A

Site: OMEGA CHEM OU2

Lab: CEIMIC CORPORATION (CEIM/C)

Reviewer: Stan Kott, ESAT/LDC

Date: July 5, 2006

QUALIFIED DATA
Concentration In ug/LAnalysis Type: Low Concentration Groundwater Samples For
Select Dissolved Metals and Total Cyanide

Station Location: OC2-MW4A-W-0-58 Sample ID: MY1FS0 Collection Date: 9/13/2004				OC2-MW4B-W-0-59 MY1FS1 D1 9/13/2004				OC2-MW4B-W-1-60 MY1FS2 D1 9/13/2004				OC2-MW4C-W-0-61 MY1FS3 9/13/2004				OC2-MW1B-W-0-62 MY1FS4 9/14/2004				OC2-MW1A-W-0-63 MY1FS5 9/14/2004				OC2-MW2A-W-0-64 MY1FS6 9/14/2004			
PARAMETER	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
ALUMINUM	200U			200U			200U			200U			200U			200U			200U			200U			200U		
BORON	378			355			378			294			309			404			361								
CALCIUM	175000			216000			221000			149000			123000			155000			175000								
IRON	100U			100U			100U			100U			50.7L	J	A	100U			100U								
MAGNESIUM	45100			56700			58200			41200			39300			50200			50800								
POTASSIUM	2920L	J	A	4210L	J	A	4240L	J	A	3960L	J	A	4670L	J	A	2790L	J	A	2910L	J	A						
SILICON	16100			16800			16600			14600			10300			15800			14100								
SODIUM	95700			93900			96600			80400			68300			84100			95500								
CYANIDE	10.0U			10.0U			10.0U			10.0U			10.0U			10.0U			10.0U								

Station Location: OC2-MW6A-W-0-65 Sample ID: MY1FS7 Collection Date: 9/14/2004				OC2-MW5A-W-0-66 MY1FS8 9/14/2004				OC2-MW9B-W-0-67 MY1FS9 9/15/2004				OC2-MW8B-W-5-69 MY1FT1 9/15/2004				OC2-MW8C-W-0-70 MY1FT2 9/15/2004				OC2-MW8A-W-0-71 MY1FT3 9/15/2004				OC2-MW8D-W-0-72 MY1FT4 9/15/2004			
PARAMETER	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
ALUMINUM	200U			200U			200U			200U			200U			200U			200U			200U			200U		
BORON	364			354			349			355			369			445			103L	J	A						
CALCIUM	193000			199000			217000			216000			216000			222000			136000								
IRON	100U			34.5L	J	A	45.6L	J	A	100U			93.6L	J	A	100U			100U								
MAGNESIUM	47000			54500			51000			56400			54300			53600			36600								
POTASSIUM	4030L	J	A	3280L	J	A	5130			4650L	J	A	4450L	J	A	4760L	J	A	3850L	J	A						
SILICON	13600			12100			11600			14400			13900			14100			10500								
SODIUM	130000			89700			109000			106000			113000			126000			57600								
CYANIDE	10.0U			10.0U			10.0U			10.0U			10.0U			10.0U			10.0U								

Station Location: OC2-MW7A-W-0-73 Sample ID: MY1FT5 D2 Collection Date: 9/16/2004				OC2-MW7A-W-1-74 MY1FT6 D2 9/16/2004				OC2-MW3A-W-0-75 MY1FT7 9/16/2004				OC2-MW10A-W-0-76 MY1FT8 9/16/2004				OC2-MW11A-W-0-77 MY1FT9 9/16/2004				MDL				CRQL			
PARAMETER	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
ALUMINUM	200U			200U			200U			200U			200U			44.2			200								
BORON	567			592			520			353			522			52.5			200								
CALCIUM	234000			238000			133000			161000			253000			77.4			5000								
IRON	100U			100U			100U			100U			100U			32.2			100								
MAGNESIUM	65800			66900			41600			40900			67800			28.2			5000								
POTASSIUM	4010L	J	A	4170L	J	A	3180L	J	A	4100L	J	A	5420			54.8			5000								
SILICON	11700			15600			16900			12000			14100			67.3			200								
SODIUM	167000			168000			166000			123000			160000			60.9			5000								
CYANIDE	10.0U			10.0U			10.0U			10.0U			10.0U			0.83			10.0								

Val - Validity. Refer to Data Qualifiers in Table 1B.

Com - Comments. Refer to the Corresponding Section in the Narrative for each letter.

MDL - Method Detection Limit, N/A - Not Applicable, NA - Not Analyzed

D1, D2, etc. - Field Duplicate Pairs

FB - Field Blank, EB - Equipment Blank, TB - Trip Blank, BG - Background Sample

CRQL - Contract Required Quantitation Limit

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR INORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared in accordance with the document *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*; October 2004.

- U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The result is an estimated quantity, but the result may be biased high.
- J- The result is an estimated quantity, but the result may be biased low.
- R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.
- UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.